



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,990	05/24/2006	Shlomo Gotman	PHUS030467US2	1431
38107	7590	07/07/2009	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			SEREBOFF, NEAL	
P. O. Box 3001			ART UNIT	PAPER NUMBER
BRIARCLIFF MANOR, NY 10510			3626	
MAIL DATE		DELIVERY MODE		
07/07/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,990	GOTMAN ET AL.	
	Examiner	Art Unit	
	NEAL R. SEREBOFF	3626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 March 2009.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-9, 11-22 and 25-36 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 2-9, 11-22 and 25-36 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Amendment

1. In the amendment dated 10/22/2008, the following has occurred: Claims 2 – 9, 11 – 19, 21 and 22 have been amended; Claims 25 - 36 have been added; Claims 1 and 10 have been canceled. Claims 23 and 24 were previous canceled. Claims 2 – 9, 11 – 22 and 25 – 36 are pending.

Notice to Applicant

2. As required by MPEP § 2181(I), claims 2 – 9, 11 – 22 and 25 are being treated under 35 U.S.C. 112, 6th paragraph.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. In the action dated 1/23/2009, the Examiner requested information regarding the current state of the art as described within the Applicant's specification. Although the Applicant's response was in accordance with the request, the Examiner notes that the Assignee to the instant Applicant's invention is Philips Electronics. Philips Electronics manufactured a DICOM compliant CT workstation more than 1 year before the instant application. Please see the 35 U.S.C. 102(b) rejection below for further comments.

Claim Objections

5. Claim 18 is objected to because of the following informalities: Claim 18 includes the limitation, "a remote computer **on** a PDA." (emphasis added) The Examiner notes that throughout the claims, the limitation is otherwise written, "a remote computer **or** a PDA." Additionally, the Specification, page 10 includes:

A mobile protocol means 192 allows the physician or others to remotely specify and preload the selected scan protocols by using the remote means 20 such as PDA, computer, the web, or the like, into the hospital network system 14. Preloaded protocols are stored in a mobile protocols, memory 194. The interface means 48 automatically uploads the information for each patient to the CT scanner 24, eliminating the operator protocol selection step. Alternatively, the information is uploaded directly to the CT scanner.

where computer and PDA are disclosed in the alternative. The Examiner understands that this was incorrectly typed as "on a PDA." Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim Rejections - 35 USC § 112

7. Claims 2 – 9, 11 – 22 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- To avoid purely functional claiming in cases involving computer-implemented inventions, we have "consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor." Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech., 521 F.3d 1328, 1333 (Fed. Cir. 2008). "Because general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to 'the corresponding structure, material, or acts' that perform the function, as required by section 112 paragraph 6." Id. "Thus, in a means-plus-function claim 'in which the disclosed structure is a computer, or

microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.'" Id. (quoting WMS Gaming, Inc. v. Int'l Game Tech., 184 F.3d 1339, 1349 (Fed. Cir. 1999)). Consequently, a means-plus-function claim element for which the only disclosed structure is a general purpose computer is invalid if the specification fails to disclose an algorithm for performing the claimed function. See id. at 1337-38.

- The Applicant included the new limitation into independent claims 2 and 3 that states, "A protocol configuration means for configuring the selected examination protocol in response to receiving the patient limiting parameters entered by the user into at least data entry fields displayed on the user interface screens." It is not clear from the limitation whether the user interface screens control the examination protocol or the patient limiting parameters. The Examiner understands the user interface screens to be controlling the examination protocol.

8. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Method claim 22 depends upon system claim 2. It is not clear from the claim 22 preamble which statutory class claim 22 belongs. Claim 22 is understood to be a system claim without the addition of any new structural items.

Claim 22 provides for the method of claim 2, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to

encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

9. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 13 recites the limitation "the selection means" in 2nd line. There is insufficient antecedent basis for this limitation in the claim.
- The term "in accordance with" in claim 13 is a relative term which renders the claim indefinite. The term "in accordance with" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.
- The Examiner understands claim 13 to be a user interface having selectable protocols.

10. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 includes the limitation, "the previous images have been generated by a different modality." It is not clear from the claim from what previous image generation must be different. For example, is the modality different from other previous images, from the current image, from a standard, from the current user's profile? The Examiner understands this limitation to be non-functional descriptive information.

11. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 includes the abbreviation, PDA. Although the Examiner may

understand the abbreviation to be Personal Digital Assistant, there is nothing in the specification that would distinguish a PDA from a computer. Therefore, the Examiner understands PDA to be a computer.

12. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 20 recites the limitation "patient's limiting parameters" in 2nd line of the claim body. There is insufficient antecedent basis for this limitation in the claim. The Examiner is unsure if the patient's limiting parameters are the same of those found in claim 2 or different parameters.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. ***Claims 2 – 9, 11 – 22 and 25 – 36*** are rejected under 35 U.S.C. 102(b) based upon a public use or sale of the invention.

15. The claimed invention is directed toward an imaging system, or as defined within the art as a DICOM Workstation, (Philips Medical Systems, DICOM Conformance Statement).

Art Unit: 3626

16. An issue of public use or on sale activity has been raised in this application. In order for the examiner to properly consider patentability of the claimed invention under 35 U.S.C. 102(b), additional information regarding this issue is required as follows:

In particular, Philips has produced an EasyVision series of DICOM compliant workstations that have the following features (DICOM EasyVision DX 8.2 Conformance Statement):

There are differences between the EasyVision versions DX, CL, RG and Home, regarding DICOM and other, non-DICOM functionality. The Matrix below gives an overview of which (DICOM) functionality will be supported by which EasyVision version.

Table 1. Functionality Matrix

EasyVision	DICOM Functionality Matrix			
	EasyVision DX	EasyVision CL	EasyVision RG	EasyVision Home
Merges PACS Worklist and RIS information in one view	✓	✓	✓	✓
Printing images to Postscript printer	✓	✓	✓	✓
Adjustable window width and level at image view	✓	✓	✓	✓
Pre defined grayscale settings at image view	✓	✓	✓	✓
Supports viewing a majority of available DICOM SOP Classes at image view	✓	✓	✓	✓
Zoom and window width and level at Multi-frame view	✓	✓	✓	✓
Creation of static Worklist	✓	✓	✓	✓
DICOM Q/R	✓	✓	✓	✓
DICOM Modality Worklist	✓	✓	✓	✓
Dynamic Worklist to quickly find examinations	✓	✓	✓	✓
Personalized Worklist	✓	✓	✓	✓
Image calibration	✓		✓	✓
Remove series of examinations	✓		✓	✓
Remove examinations	✓		✓	✓
View DICOM header information	✓		✓	✓
DICOM Print Management SCU	✓		✓	✓

The Examiner does not have a Philips EasyVision manual or data sheet and therefore cannot compare the specific features of the Philips EasyVision worksheet to the Applicant's claims. Therefore, in order to show that the Applicant's instant application is different than the Philips EasyVision workstation, a manual of at least EasyVision 8.2 is requested.

Applicant is reminded that failure to fully reply to this requirement for information will result in a holding of abandonment.

17. **Claims 2 – 6, 13** are rejected under 35 U.S.C. 102(b) as being anticipated by Debbins et al., Pre-Grant Publication 2002/ 0060566.

18. As per claim 2, Debbins teaches a medical diagnostic imaging system as coupled to a scanner for acquiring image data from a patient and coupled to a hospital network, the hospital network including a hospital database which stores patient data including patient images and a plurality of hospital computers, the system comprising:

- A scanner control which controls the scanner to perform a selected examination protocol (figure 1), the scanner control including:
 - A display (Figure 1, #42 or #12),
 - An applications database which is configurable by a user (figure 1, #44 and paragraphs 35 – 37), and
 - An interface which displays interactive user interface screens on the display (figure 1, #12 or #42 and paragraph 35) and receives patient limiting parameters (Figure 2, #52 and paragraph 45, patient prescription) wherein the user interface screens allow the user to

- Configure the applications database (paragraphs 64 where the user selects the application) and
- Interactively control the scanner by at least activating icons and buttons displayed thereon (figure 4 and paragraphs 83 and 84), wherein the interface includes:
 - A protocol configuration means for configuring the selected examination protocol in response to receiving the patient limiting parameters entered by the user (as understood, paragraphs 29 – 31 including patient prescription) into at least data entry fields displayed on the user interface screens (as understood, paragraphs 81 – 84).

Where the protocol configuration means is web based software (figures 4 and 6).

19. As per claim 3, Debbins teaches a medical diagnostic imaging system for acquiring images of a patient, the imaging system being coupled to a hospital network which hospital network includes a hospital database which stores patient data including patient images, and a plurality of hospital computers, the imaging system comprising:

- A scanner which scans the patient using a selected examination protocol to generate image data (figure 1);
- A scanner control which controls the scanner (paragraph 24), the scanner control being coupled to the scanner and the hospital network (paragraph 26 and paragraph 98), the scanner control including:
 - A display (Figure 1, #42 or #12),

- An applications database which is configurable by a user (figure 1, #44 and paragraphs 35 – 37), and
- An interface which causes the display to display interactive user interface screens on the display (figure 1, #12 or #42 and paragraph 35), which user interface screens allow the user
 - To configure the applications database (paragraphs 64 where the user selects the application),
 - Enter a examination protocols (paragraphs 33 – 35 where the operator makes adjustments), and
 - Interactively control the scanner by activating icons and buttons displayed thereon (figure 4 and paragraphs 83 and 84);
- An examination protocol database which stores a plurality of examination protocols (paragraph 80);
- A protocol selection means for choosing a limited number of selectable examination protocols from among the plurality of examination protocols stored in the examination protocol database (paragraphs 81 – 84 where limited is some reduction in the infinite potential available protocols) in response to
 - Receiving the patient's limiting parameters one of entered by the user into data entry fields displayed on the user interface screens,
 - From the hospital database, or
 - From a remote terminal (paragraphs 29 – 31 including patient prescription), and

- Displaying the chosen examination protocols on the display from which the user selects the selected examination protocol such that the user is limited to selecting only among chosen examination protocols chosen by the protocol selection means (figure 6).

20. As per claim 4, Debbins teaches the system of claim 2 as described above. Debbins further teaches the system

- including a post processor which reconstructs the image data acquired by the scanner into patient images and wherein the interface further includes (paragraph 3, all systems include an image reconstruction processor):
 - A post-processing configuration means for configuring post processor in response to receiving acquisition and post-processing parameters entered by the user into at least data entry fields displayed on the user interface screens (paragraph 79).

21. As per claim 5, Debbins teaches the system of claim 3 as described above. Debbins further teaches the system further including:

- A processor which automatically commences post-processing during data acquisition in accordance (paragraphs 9, 78, 79) with
 - types and formats of images commonly generated with the selected examination protocol (paragraphs 9, 94), or
 - patient's limiting parameters entered by the user into data entry fields to generate patient images (paragraph 80).

22. As per claim 6, Debbins teaches the system of claim 4 as described above. Debbins further teaches the system wherein the post-processor generates patient images while the patient is being scanned (paragraph 9, real time image processing).
23. As per claim 13, Debbins teaches the system of claim 5 as described above. Debbins, as understood, further teaches the system wherein the selection means chooses the selectable examination protocols in accordance with examination protocols used for previous examinations stored in the hospital database of the patient to generate the patient images (paragraphs 9, 78 – 80 and 94).

Claim Rejections - 35 USC § 103

24. ***Claim 7*** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Okerlund et al., U.S. Pre-Grant Publication Number 2004 /0225331.

25. As per claim 7, Debbins teaches the system of claim 4 as described above. Debbins does not explicitly teach the system wherein the patient images are automatically sent to a reviewing physician's hospital computer.

However, Okerlund further teaches the system wherein the patient images are automatically sent to a reviewing physician's hospital computer (figure 1 and paragraph 17 where the initiating event may be manual).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- with the motivation to use one or more of the several computer-assisted detection, localization and visualization methods available (Okerlund, paragraph 24).

26. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Bitter et al., U.S. Pre-Grant Publication 2005/ 0228250.

27. As per claim 8, Debbins teaches the system of claim 4 as described above. Debbins does not explicitly teach the system wherein the post-processing configuration means includes:

- A visualization configuration means for configuring visualization parameters,
 - including a slice or slab thickness, zoom, and windowing, in response to receiving the selected examination protocol entered by the user into the data entry fields and diagnosing radiologists preferences from the hospital database.

However, Bitter further teaches the system wherein the post-processing configuration means includes:

- A visualization configuration means for configuring visualization parameters (paragraph 38 and paragraph 106),
 - including a slice or slab thickness (paragraph 49, user controls and paragraph 61, thickness), zoom (paragraph 38, zooming), and windowing (paragraph 38,

window adjustment), in response to receiving the selected examination protocol entered by the user into the data entry fields (figure 3 and paragraph 37, input events) and diagnosing radiologists preferences from the hospital database (paragraph 38, user parameters and paragraph 89, where the user may be a radiologist).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to display medical images and enable user interaction with the medical images (Bitter, paragraph 7).

28. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Bitter et al., U.S. Pre-Grant Publication 2005/ 0228250 and Wright et al., U.S. Patent 6,004,276.

29. As per claim 9, Debbins teaches the system of claim 3 as described above.

Debbins does not explicitly teach the system wherein the post-processing means includes:

- A visualization configuration means for searching the hospital database for visualization parameter preferences of a diagnosing radiologist and adjusting level, zoom, slice and slab thickness, windowing, and other visualization parameters in accordance with the diagnosing radiologist's preferences from the hospital database.

However, Wright further teaches the system wherein the post-processing means includes:

- A visualization configuration means for searching the hospital database (column 20, line 47 through column 21, line 3, where the search is a login) in accordance with the diagnosing radiologist's preferences from the hospital database (column 63, lines 36 -55).

However, Bitter further teaches the system wherein the post-processing means includes:

- A visualization configuration means for visualization parameter preferences of a diagnosing radiologist and adjusting level (paragraph 38, level adjustment), zoom (paragraph 38, zooming), slice and slab thickness (paragraph 49, user controls and paragraph 61, thickness), windowing (paragraph 38, window adjustment), and other visualization parameters (paragraphs 38 – 49).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to display medical images and enable user interaction with the medical images (Bitter, paragraph 7).
- With the motivation to allow the user to access the product specific functionality delineated in the appropriate product specification (Wright, column 63, lines 36 -55).

30. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Penner et al., U.S. Patent 6,431,175.

31. As per claim 11, Debbins teaches the system of claim 3 as described above.

Debbins does not explicitly teach the system wherein the scanner is a CT scanner and the interface includes:

- A parameters optimization means for automatically selecting optimization parameters of an x-ray source of the CT scanner based on the selected examination protocol to correct:
 - Voltage supplied to the CT scanner x-ray source,
 - Amperage supplied to the CT scanner x-ray source, and
 - An x-ray dose supplied to the patient.

However, Penner further teaches the system wherein the scanner is a CT scanner and the interface includes:

- A parameters optimization means for automatically selecting optimization parameters of an x-ray source of the CT scanner based on the selected examination protocol to correct:
(column 9, lines 34 – 41)
 - Voltage supplied to the CT scanner x-ray source (column 18, lines 33 – 40 and column 20, lines 15 - 23),
 - Amperage supplied to the CT scanner x-ray source (column 18, lines 33 – 40 and column 20, lines 15 – 23 where amperage is a measure of electric power), and
 - An x-ray dose supplied to the patient (Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to greatly increase the healing efficacy of the radiation treatment while at the same time, greatly decreasing the chance of inflicting damage to healthy tissues (Panner, column 16, lines 23 - 36).

32. ***Claims 12, 14 and 18*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Agfa, “Informatics – IMPAX DS3000).

33. As per claim 12, Debbins teaches the system of claim 5 as described above. Debbins does not explicitly teach the system wherein the interface includes:

- A pre-fetch means for searching the hospital database for previous images of the patient and automatically sending the previous images to a diagnosing physician's hospital computer without waiting for a transfer request from the physician.

However, Agfa further teaches the system wherein the interface includes:

- A pre-fetch means for searching the hospital database for previous images of the patient and automatically sending the previous images to a diagnosing physician's hospital

computer without waiting for a transfer request from the physician (IMPAC DS3000 Diagnostic Display Station).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to create high a degree of workflow automation so that when the radiologist needs to review images or results, they are readily available (Agfa, IMPAC DS3000 Diagnostic Display Station).

34. As per claim 14, Debbins in view of Agfa teaches the system of claim 12 as described above.

Debbins does not explicitly teach the system wherein the interface includes:

- wherein the previous images have been generated by a different modality and further including:
 - an auto registration means for registering and displaying the previous and current images at the physician's computer.

However, Agfa, as understood, further teaches the system wherein the interface includes:

- wherein the previous images have been generated by a different modality and further including:

- an auto registration means for registering and displaying the previous and current images at the physician's computer (Agfa, IMPAC DS3000 Diagnostic Display Station).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to create high a degree of workflow automation so that when the radiologist needs to review images or results, they are readily available (Agfa, IMPAC DS3000 Diagnostic Display Station).

35. As per claim 18, Debbins teaches the system of claim 3 as described above. Debbins, as understood, further teaches the system including:

- A remote computer on a PDA (paragraph 25, where there are 4 servers and a workstation);

Debbins does not explicitly teach the system

- Wherein at the beginning of a scan procedure, the interface automatically uploads the selected examination protocol from the computer or PDA .

However, Agfa, as understood, further teaches the system

- Wherein at the beginning of a scan procedure, the interface automatically uploads the selected examination protocol from the computer or PDA (Agfa, IMPAC DS3000 Diagnostic Display Station).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to create high a degree of workflow automation so that when the radiologist needs to review images or results, they are readily available (Agfa, IMPAC DS3000 Diagnostic Display Station).

36. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Argiro et al. U.S. Patent Number 5,986,662.

37. As per claim 15, Debbins teaches the system of claim 3 as described above. Debbins does not explicitly teach the system wherein the interface means includes:

- Slab review means for merging image slices acquired by the scanner into slabs of selected thickness which is interactively supplied by the user, displaying the slabs, and separating slabs selected by the operator back into their constituent individual slices for display to the user.

However, Argiro further teaches the system wherein the interface means includes:

- Slab review means for merging image slices acquired by the scanner into slabs of selected thickness which is interactively supplied by the user, displaying the slabs, and separating slabs selected by the operator back into their constituent individual slices for display to the user (column 14, lines 33 – 63 or column 23, lines 23 – 33).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Debbins. One of ordinary skill in the art at the time of the invention would have added this feature into Debbins

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- with the motivation to permit a user to see through unimportant features of a slice to structures of interest farther in (Argiro, column 23, lines 23 - 33).

The display of images on a screen is considered non-functional descriptive information. How those images are displayed is a matter of design choice in that the images may be integral, separable, duplicated and re-arranged.

38. **Claims 16, 17 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Koritzinsky et al., U.S. Patent Number 6,272,469.

39. As per claim 16, Debbins teaches the system of claim 3 as described above. Debbins does not explicitly teach the system wherein the interface means includes:

- A log means for collecting the entered patient's limiting parameters, scanner running time, examination protocols used and other scan information for each scanned patient, and generating a digital log book.

However, Koritzinsky further teaches the system wherein the interface means includes:

- A log means for collecting the entered patient's limiting parameters, scanner running time, examination protocols used and other scan information for each scanned patient, and generating a digital log book (column 9, lines 46 – 64 where the data stored in the log file is non-functional descriptive information and the means is a data storage device).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Debbins. One of ordinary skill in the art at the time of the invention would have added this feature into Debbins

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- with the motivation to have information for servicing of particular diagnostic systems and for tracking such servicing, as well as for deriving comparison data for use in servicing a particular system or a family of systems (Koritzinsky, column 6, lines 24 - 49).

40. As per claim 17, Debbins in view of Koritzinsky teaches the system of claim 16 as described above.

Debbins does not explicitly teach the system wherein the interface means includes:

- A remote statistics means for remotely accessing and mining the digital log book to provide statistical analysis for optimizing scanner use.

However, Koritzinsky further teaches the system wherein the interface means includes:

- A remote statistics means for remotely accessing and mining the digital log book to provide statistical analysis for optimizing scanner use (column 20, lines 11 – 26 where the means is software and remote may either be a remotely executed location or a web browser or a remotely storage of the software from the historical data. Additionally, the statements following, “to provide” are the intended use of the statistics and therefore do not have patentable weight).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Debbins. One of ordinary skill in the art at the time of the invention would have added this feature into Debbins

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- with the motivation to have information for servicing of particular diagnostic systems and for tracking such servicing, as well as for deriving comparison data for use in servicing a particular system or a family of systems (Koritzinsky, column 6, lines 24 - 49).

41. As per claim 21, Debbins in view of Koritzinsky teaches the system of claim 2 as described above.

Debbins does not explicitly teach the system wherein the interface includes:

- A workflow means for guiding the user through the imaging process which workflow means presents the user interface screens to the user in a sequential order and prompts the

user to enter data including at least the patient's limiting parameters, requested procedure and requesting physician.

However, Koritzinsky further teaches the system wherein the interface includes:

- A workflow means for guiding the user through the imaging process which workflow means presents the user interface screens to the user in a sequential order and prompts the user to enter data including at least the patient's limiting parameters, requested procedure and requesting physician (figure 6 through 16 where the means for guiding is web pages, entering data into a field is considered guided entry and the entered data represents non-functional descriptive information).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Debbins. One of ordinary skill in the art at the time of the invention would have added this feature into Debbins

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- with the motivation to have information for servicing of particular diagnostic systems and for tracking such servicing, as well as for deriving comparison data for use in servicing a particular system or a family of systems (Koritzinsky, column 6, lines 24 - 49).

42. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Rothschild et al. U.S. Pre-Grant Publication Number 2002/ 0016718.

43. As per claim 19, Debbins teaches the system of claim 2 as described above.

Debbins does not explicitly teach the system further including:

- A measurement protocol configuration means by which a user configures measurement protocols,
 - which measurement protocol configuration means selects a list of measurements which can be measured using the selected examination protocol,
 - a reference image means which selects a reference image which provides a visual indication of where each individual measurement is located and causes the display to display the list and the reference image.

However, Rothschild further teaches the system further including:

- A measurement protocol configuration means by which a user configures measurement protocols (paragraph 150 where the means is a workstation),
 - which measurement protocol configuration means selects a list of measurements which can be measured using the selected examination protocol (paragraph 171 where the means is software),
 - a reference image means which selects a reference image which provides a visual indication of where each individual measurement is located (paragraph 150 where the means for selecting is the physician) and causes the display to display the list and the reference image (paragraph 171, where the display is a browser, the displayed information is non-functional descriptive information and therefore has no patentable weight).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill in the art at the time of the invention would have added these features into Debbins with the motivation to know the exact location of the image inside the body (Rothschild, paragraph 150).

44. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Rothschild et al. U.S. Pre-Grant Publication Number 2002/ 0016718 as applied to claim 19 above, further in view of Coleman et al., U.S. Patent Number 6,306,089.

45. As per claim 20, Debbins in view of Rothschild teaches the system of claim 19 as described above.

Debbins does not explicitly teach the system further including:

- A measurement updating means for storing the actual measurements.

However, Rothschild further teaches the system further including:

- A measurement updating means for storing the actual measurements (paragraph 235 where the updating means is the database software).

Debbins in view of Rothschild does not explicitly teach the system further including:

- A measurement protocol means for selecting a correct measurement protocol in response to receiving patient's limiting parameters entered by the user into data entry fields displayed on the user interface screens;
- A measurement calculating means for performing actual measurements; and

However, Coleman further teaches the system further including:

- A measurement protocol means for selecting a correct measurement protocol in response to receiving patient's limiting parameters entered by the user into data entry fields displayed on the user interface screens (figure 6 or 7 and column 2, lines 1 - 18 or column 8, lines 10 – 57 where the means for selecting is software);
- A measurement calculating means for performing actual measurements (column 5, lines 5 – 35 or column 6, line 61 through column 7, line 12 where the means for performing is software); and

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Debbins. One of ordinary skill in the art at the time of the invention would have added this feature into Debbins with the motivation to know the exact location of the image inside the body (Rothschild, paragraph 150).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins in view of Rothschild. One of ordinary skill in the art at the time of the invention would have added these features into Debbins in view of Rothschild with the motivation to define custom exam protocols, custom measurements or custom calculations (Coleman, Abstract).

The Examiner notes that the claim does not require that the parameters be this current patient's specific limiting parameters, "receiving patient's limiting parameters." The parameters may be those of the technician regarding the particular modality. The modality itself would then be a patient's limiting parameter.

46. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Berger et al., U.S. Pre-Grant Publication 2004/ 0015079.

47. As per claim 22, Debbins teaches the system of claim 2 as described above.

Debbins does not explicitly teach the system

- Storing a plurality of the examination protocols in an application database in a hospital network;
- Entering the patient limiting parameters into the application database prior to scanning the patient;
- Matching the patient limiting parameters with one or more optimal examination protocols stored in the application database;
- Displaying a list of the one or more optimal examination protocols for the scanning of the patient in response to the results of the matching;
- Displaying the list to the user to use in selecting the examination protocol to be used in the patient information.

However, Okerlund further teaches the system

- Storing a plurality of the examination protocols in an application database in a hospital network (paragraphs 34, 217, 271 – 273 and 452, presets and where the protocols or rules are the histograms);
- Entering the patient limiting parameters into the application database prior to scanning the patient (paragraph 273, anatomical structure or paragraph 452, optimized for probe);

- Matching the patient limiting parameters with one or more optimal examination protocols stored in the application database (paragraph 273, where levels are adjusted to match or paragraph 452, probe selection);
- Displaying a list of the one or more optimal examination protocols for the scanning of the patient in response to the results of the matching (paragraph 452, t-shirt where the displayed information is non-functional);
- Displaying the list to the user to use in selecting the examination protocol to be used in the patient information (paragraph 452, t-shirt where the displayed information is non-functional).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Debbins. One of ordinary skill in the art at the time of the invention would have added this feature into Debbins

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- with the motivation to save settings under a user defined name for later recall (Berger paragraph 217).

48. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566 in view of Vosniak et al., U.S. Pre-Grant Publication 2005/ 0020898.

49. As per claim 25, Debbins teaches the system of claim 3 as described above.

Debbins does not explicitly teach the system

- wherein the patient's limiting parameters include patient size, patient age, a radiologist identification, radiologist preferences, and a nature and region of the patient to be scanned.

However, Vosniak further teaches the system

- wherein the patient's limiting parameters include patient size, patient age, a radiologist identification, radiologist preferences, and a nature and region of the patient to be scanned (paragraph 31).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Debbins. One of ordinary skill in the art at the time of the invention would have added this feature into Debbins

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- with the motivation to display the patient list on the display of the workstation (Vosniak paragraph 32).

50. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent 7,073,129.

51. As per claim 26, Vosniak teaches a medical diagnostic imaging system coupled to a hospital network, which hospital network interconnects a hospital archive database, computers, computer displays, and a diagnostic scanner which scans a patient using a selected examination protocol, the medical diagnostic imaging system including:

Art Unit: 3626

- A display device (figure 1, #15); and
- A computer programmed (paragraph 19) to:
 - Select a limited number of examination protocols from a menu of available protocols in accordance with entered patient size, patient age, radiologist identification, radiologist preferences, and a nature and region of the patient to be scanned (paragraph 31 – 40), and generating an operator interactive display on the display device of the limited number of examination protocols (paragraph 33, 1 protocol, the display), such that a user selects the selected examination protocol to be used to scan the patient from the limited number of display examination protocols (paragraph 33, the selection is limited to the one displayed. In addition).

Vosniak does not explicitly teach the step of,

- generating an operator interactive display on the display device of the limited number of examination protocols.

However, limiting the number of protocols is a matter of protocol filtering,

- generating an operator interactive display on the display device of the limited number of examination protocols (column 7, line 56 through column 8, line 5 where user options are limited by context based rules).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Vosniak. One of ordinary skill in the art at the time of the invention would have added this feature into Vosniak

- The prior art teaches a known technique that is applicable to the base device.
- Those in the art would have recognized applying the known technique would have yielded an improvement and was predictable.

52. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent 7,073,129 as applied to claim 26 above, further in view of Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566.

53. As per claim 27, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robarts does not explicitly teach the system wherein the computer is further programmed to:

- Automatically, without user instructions, commence post-processing during data acquisition in accordance with types and format of images most commonly generated for the selected examination protocol.

Debbins further teaches the system wherein the computer is further programmed to:

- Automatically, without user instructions, commence post-processing during data acquisition in accordance with types and format of images most commonly generated for the selected examination protocol (paragraphs 9, 94).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Vosniak in view of Robarts. One of ordinary skill in the art at the time of the invention would have added this feature into Vosniak in view of Robarts

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to provide data processing steps for image reconstruction that can be graphically modified in real time to modify or improve both collected and visualized data (Debbins, paragraph 9).

54. **Claim 28** is rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent 7,073,129 as applied to claim 26 above, further in view of Penner et al., U.S. Patent 6,431,175.

55. As per claim 28, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robarts does not explicitly teach the system wherein the scanner is a CT scanner and the computer is further programmed to:

- Optimize a tube voltage and tube current for an x-ray source of the CT scanner in accordance with an operated selected protocol.

However, Penner further teaches the system wherein the scanner is a CT scanner and the interface includes:

- Optimize a tube voltage (column 18, lines 33 – 40 and column 20, lines 15 - 23) and tube current (column 18, lines 33 – 40 and column 20, lines 15 – 23 where amperage is a measure of electric power) for an x-ray source of the CT scanner in accordance with an operated selected protocol (column 9, lines 34 – 41).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Vosniak in view of Robarts. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to greatly increase the healing efficacy of the radiation treatment while at the same time, greatly decreasing the chance of inflicting damage to healthy tissues (Panner, column 16, lines 23 - 36).

56. ***Claims 29 and 35*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent 7,073,129 as applied to claim 26 above, further in view of Agfa, “Informatics – IMPAX DS3000).

57. As per claim 29, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robart does not explicitly teach the system wherein the computer is further programmed to:

- Search the hospital archive database for images of the patient currently undergoing examination and routing the archive patient images directly to the display terminal of a diagnosing radiologist, automatically without waiting for a transfer request.

However, Agfa further teaches the system wherein the computer is further programmed to:

- Search the hospital archive database for images of the patient currently undergoing examination and routing the archive patient images directly to the display terminal of a diagnosing radiologist, automatically without waiting for a transfer request (IMPAC DS3000 Diagnostic Display Station).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Vosniak in view of Robart. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to create high a degree of workflow automation so that when the radiologist needs to review images or results, they are readily available (Agfa, IMPAC DS3000 Diagnostic Display Station).

58. As per claim 35, Vosniak in view of Robarts teaches the system of claim 26 as described above.

35. The medical diagnostic imaging system as set forth in claim 26,
Vosniak in view of Robart does not explicitly teach the system wherein the computer is further programmed to:

- At the beginning of a scan procedure, automatically upload examination protocol information previously submitted from a remote computer or PDA.

However, Agfa, as understood, further teaches the system wherein the computer is further programmed to:

- At the beginning of a scan procedure, automatically upload examination protocol information previously submitted from a remote computer or PDA (Agfa, IMPAC DS3000 Diagnostic Display Station).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Vosniak in view of Robart. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to create high a degree of workflow automation so that when the radiologist needs to review images or results, they are readily available (Agfa, IMPAC DS3000 Diagnostic Display Station).

59. ***Claim 30 is*** rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent 7,073,129 as applied to claim 26 above, further in view of Wright et al., U.S. Patent 6,004,276.

60. As per claim 30, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robart does not explicitly teach the system wherein the computer is further programmed to:

- Search the hospital archive database to determine if a current scan is a follow-up scan, determine parameters and examination protocols used in prior scans, and set the scanner

to conduct the follow-up examination using the same parameters and examination protocols.

However, Wright further teaches the system wherein the computer is further programmed to:

- Search the hospital archive database to determine if a current scan is a follow-up scan, determine parameters and examination protocols used in prior scans, and set the scanner to conduct the follow-up examination using the same parameters and examination protocols (column 1, line 66 through column 2, line 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Vosniak in view of Robart. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable. When combined, the elements perform the same function as they did separately.
- With the motivation to allow the user to access the product specific functionality delineated in the appropriate product specification (Wright, column 63, lines 36 -55).

61. ***Claim 31 is*** rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent 7,073,129 as applied to claim 26 above, further in view of Bitter et al., U.S. Pre-Grant Publication 2005/ 0228250.

62. As per claim 31, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robart does not explicitly teach the system wherein the computer is further programmed to:

- Search the hospital archive database to determine preferences of a diagnosing radiologist and adjust level, zoom, slice and slab thicknesses, windowing, and other display characteristics in accordance with the retrieved preferences of the diagnosing radiologist.

However, Bitter further teaches the system wherein the computer is further programmed to:

- Search the hospital archive database to determine preferences of a diagnosing radiologist and adjust level (paragraph 38, level), zoom (paragraph 38, zooming), slice and slab thickness (paragraph 49, user controls and paragraph 61, thickness), windowing (paragraph 38, window adjustment), and other display characteristics in accordance with the retrieved preferences of the diagnosing radiologist (paragraph 38 and 89).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add these features into Debbins. One of ordinary skill at the time of the invention would have added these features

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to display medical images and enable user interaction with the medical images (Bitter, paragraph 7).

63. ***Claim 32 is*** rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent 7,073,129 as applied to claim 26 above, further in view of Argiro et al. U.S. Patent Number 5,986,662.

64. As per claim 32, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robart does not explicitly teach the system wherein the computer is further programmed to:

- Merge groups of slice images into a smaller number of slab images, sequentially display the slab images, and display the individual slice images corresponding to each slab image designated by a diagnosing radiologist.

However, Argiro further teaches the system wherein the computer is further programmed to::

- Merge groups of slice images into a smaller number of slab images, sequentially display the slab images, and display the individual slice images corresponding to each slab image designated by a diagnosing radiologist (column 23, lines 23 – 33, thickness slider).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Koritzinsky. One of ordinary skill in the art at the time of the invention would have added this feature into Koritzinsky

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- with the motivation to permit a user to see through unimportant features of a slice to structures of interest farther in (Argiro, column 23, lines 23 - 33).

65. **Claims 33 and 34 are** rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent

7,073,129 as applied to claim 26 above, further in view of Koritzinsky et al., U.S. Patent Number 6,272,469.

66. As per claim 33, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robart does not explicitly teach the system wherein the computer is further programmed to:

- Generate a series of prompts to an operator to lead the operator sequentially through an imaging procedure.

However, Koritzinsky further teaches the system wherein the computer is further programmed to:

- Generate a series of prompts to an operator to lead the operator sequentially through an imaging procedure (figure 6 through 16 where the means for guiding is web pages, entering data into a field is considered guided entry and the entered data represents non-functional descriptive information).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Vosniak in view of Robart. One of ordinary skill in the art at the time of the invention would have added this feature into Vosniak in view of Robart

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.

When combined, the elements perform the same function as they did separately.

- with the motivation to have information for servicing of particular diagnostic systems and for tracking such servicing, as well as for deriving comparison data for use in servicing a particular system or a family of systems (Koritzinsky, column 6, lines 24 - 49).

67. As per claim 34, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robart does not explicitly teach the system wherein the computer is further programmed to:

- For each scanner, automatically generate a digital log book by collecting entered patient information and scan information for each patient examined by the corresponding scanner.

However, Koritzinsky further teaches the system wherein the computer is further programmed to:

- For each scanner, automatically generate a digital log book by collecting entered patient information and scan information for each patient examined by the corresponding scanner (column 9, lines 46 – 64 where the data stored in the log file is non-functional descriptive information).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Vosniak in view of Robart. One of ordinary skill in the art at the time of the invention would have added this feature into Vosniak in view of Robart

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.

When combined, the elements perform the same function as they did separately.

- with the motivation to have information for servicing of particular diagnostic systems and for tracking such servicing, as well as for deriving comparison data for use in servicing a particular system or a family of systems (Koritzinsky, column 6, lines 24 - 49).

68. ***Claim 36 is*** rejected under 35 U.S.C. 103(a) as being unpatentable over Vosniak et al., U.S. Pre-Grant Publication 2004/ 0020898 in view of Robarts et al., U.S. Patent 7,073,129 as applied to claim 26 above, further in view of Debbins et al., U.S. Pre-Grant Publication 2002/ 0060566, Agfa, “Informatics – IMPAX DS3000), Wright et al., U.S. Patent 6,004,276, Bitter et al., U.S. Pre-Grant Publication 2005/ 0228250, Koritzinsky et al., U.S. Patent Number 6,272,469.

69. As per claim 36, Vosniak in view of Robarts teaches the system of claim 26 as described above.

Vosniak in view of Robarts does not explicitly teach the system wherein the computer is further programmed to:

- Automatically commence post-processing during data acquisition in accordance with types and format of images most commonly generated for the selected examination protocol; and
- Search the hospital archive database for images of the patient currently undergoing examination and routing the archive patient images directly to the display terminal of a diagnosing radiologist, automatically without waiting for a transfer request; and
- Search the hospital archive database to determine if a current scan is a follow-up scan, determining parameters and examination protocols used in prior scans, and setting the

scanner to conduct the follow-up examination using the same parameters and examination protocols; and

- Search the hospital archive database to determine preferences of a diagnosing radiologist and adjust level, zoom, slice and slab thicknesses, windowing, and other display characteristics in accordance with the retrieved preferences of the diagnosing radiologist;
and
- Generate a series of prompts to an operator to lead the operator sequentially through an imaging procedure.
- For each scanner, automatically generate a digital log book by collecting entered patient information and scan information for each patient examined by the corresponding scanner; and
- At the beginning of a scan procedure, automatically upload examination protocol information previously submitted from a remote computer or PDA.

However, Debbins further teaches the system wherein the computer is further programmed to:

- Automatically commence post-processing during data acquisition in accordance with types and format of images most commonly generated for the selected examination protocol (paragraphs 9, 94) ; and

However, Agfa further teaches the system wherein the computer is further programmed to:

- Search the hospital archive database for images of the patient currently undergoing examination and routing the archive patient images directly to the display terminal of a

diagnosing radiologist, automatically without waiting for a transfer request (IMPAC DS3000 Diagnostic Display Station); and

- At the beginning of a scan procedure, automatically upload examination protocol information previously submitted from a remote computer or PDA (Agfa, IMPAC DS3000 Diagnostic Display Station).

However, Wright further teaches the system wherein the computer is further programmed to:

- Search the hospital archive database to determine if a current scan is a follow-up scan, determining parameters and examination protocols used in prior scans, and setting the scanner to conduct the follow-up examination using the same parameters and examination protocols (column 1, line 66 through column 2, line 6); and

However, Bitter further teaches the system wherein the computer is further programmed to:

- Search the hospital archive database to determine preferences of a diagnosing radiologist and adjust level (paragraph 38, level), zoom (paragraph 38, zooming), slice and slab thickness (paragraph 49, user controls and paragraph 61, thickness), windowing (paragraph 38, window adjustment), and other display characteristics in accordance with the retrieved preferences of the diagnosing radiologist (paragraph 38 and 89); and

However, Koritzinsky further teaches the system wherein the computer is further programmed to:

- Generate a series of prompts to an operator to lead the operator sequentially through an imaging procedure (figure 6 through 16 where the means for guiding is web pages, entering data into a field is considered guided entry and the entered data represents non-functional descriptive information).

- For each scanner, automatically generate a digital log book by collecting entered patient information and scan information for each patient examined by the corresponding scanner (column 9, lines 46 – 64 where the data stored in the log file is non-functional descriptive information); and

It would have been obvious to one of ordinary skill in the art at the time of the invention to add this feature into Vosniak in view of Robarts. One of ordinary skill in the art at the time of the invention would have added this feature into Vosniak in view of Robarts

- The elements are all known but not combined as claimed. The technical ability exists to combine the elements as claimed and the results of the combination are predictable.
When combined, the elements perform the same function as they did separately.
- With the motivation to provide data processing steps for image reconstruction that can be graphically modified in real time to modify or improve both collected and visualized data (Debbins, paragraph 9).
- With the motivation to create high a degree of workflow automation so that when the radiologist needs to review images or results, they are readily available (Agfa, IMPAC DS3000 Diagnostic Display Station).
- With the motivation to allow the user to access the product specific functionality delineated in the appropriate product specification (Wright, column 63, lines 36 -55).
- With the motivation to display medical images and enable user interaction with the medical images (Bitter, paragraph 7).

- with the motivation to have information for servicing of particular diagnostic systems and for tracking such servicing, as well as for deriving comparison data for use in servicing a particular system or a family of systems (Koritzinsky, column 6, lines 24 - 49).
- The Examiner notes that the modules within claim 36 are not inter-related but rather are claimed as separate modules within a CT Workstation. As all the modules were known in the art, the combination of these known modules would produce predictable results.

Response to Arguments

70. Applicant's arguments with respect to claims 2- 4, 10, 16 – 18, 21 and 22 have been considered but are moot in view of the new ground(s) of rejection.

71. The Applicant is reminded that the independent claims 2 and 3 are systems claims with various and not defined "means for" executing a particular procedure. As the claims are directed toward structural components, the Examiner needs to find equivalent structures. For Example, 'a means for entering parameters that...', may be any data entry device. The intended use of that may be different but the device could still be equivalent.

72. It appears that the Applicant is attempting to differentiate the instant application from the prior art through filtering the data. It is the Examiner's position that the invention may be novel, but it is not non-obvious. The Examiner basis his position on the fact that because CT workstations are well known, the DICOM database is well known, patient data is well known and filtering techniques are well known. Filtering a database based upon known data using standard methods provides the expected obvious result.

Conclusion

73. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Choi et al., Multislice helical CT
Siemens - Somatom Volume Zoom
Siemens - SOMATOM_Volume_Zoom_special_VA401
Siemens - The_Innovations_of_syngo_MR_2003T
Viatronix web pages
Accardi et al., U.S. Patent 7,127,499
Accardi et al., U.S. Pre-Grant Publication 2005/0020898
Wofford, U.S. Patent 5,542,003
Brummer, U.S. Patent 6,898,302
Hilton et al., U.S. Patent 5,452,416
Takeo, U.S. Patent 6,289,115
Svatos, U.S. Patent 7,206,377
Sachdeva et al., U.S. Pre-Grant Publication 2004/0029068
Robarts et al., U.S. Patent 7,073,129

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEAL R. SEREBOFF whose telephone number is (571)270-1373. The examiner can normally be reached on Mon thru Thur from 7:30am to 5pm, with 1st Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Luke Gilligan can be reached on (571) 272-6770. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. R. S./
Examiner, Art Unit 3626
7/6/2009

/C. Luke Gilligan/
Supervisory Patent Examiner, Art Unit 3626